Low frequency amplifier

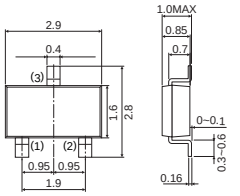
2SB1707

●Application
Low frequency amplifier
Driver

●Features
1) A collector current is large. (4A)
2) $V_{CE(sat)} \leq -250mV$
At $I_C = -2A / I_B = -40mA$

●External dimensions (Unit : mm)

TSMT3



(1) Base
(2) Emitter
(3) Collector

Each lead has same dimensions

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	–15	V
Collector-emitter voltage	V_{CEO}	–12	V
Emitter-base voltage	V_{EBO}	–6	V
Collector current	I_C	–4	A
	I_{CP}	–8	A *
Power dissipation	P_C	500	mW
Junction temperature	Tj	150	°C
Range of storage temperature	Tstg	–55 to +150	°C

*Single pulse, P_W=1ms

●Packaging specifications

Type	Package	Taping
	Code	TL
	Basic ordering unit (pieces)	3000
2SB1707		○

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	–15	–	–	V	I_C= –10μA
Collector-emitter breakdown voltage	BV_{CEO}	–12	–	–	V	I_C= –1mA
Emitter-base breakdown voltage	BV_{EBO}	–6	–	–	V	I_E= –10μA
Collector cutoff current	I_{CBO}	–	–	–100	nA	V_{CB}= –15V
Emitter cutoff current	I_{EBO}	–	–	–100	nA	V_{EB}= –6V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–150	–250	mV	I_C= –2A, I_B= –40mA
DC current gain	h_{FE}	270	–	680	–	V_{CE}= –2V, I_C= –200mA *
Transition frequency	f_T	–	250	–	MHz	V_{CE}= –2V, I_E=200mA, f=100MHz *
Collector output capacitance	Cob	–	60	–	pF	V_{CB}= –10V, I_E=0A, f=1MHz

* Pulsed

●**Electrical characteristic curves**

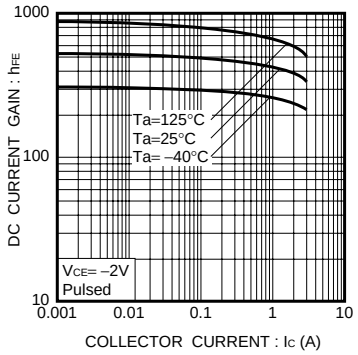


Fig.1 DC Current Gain vs. Collector Current

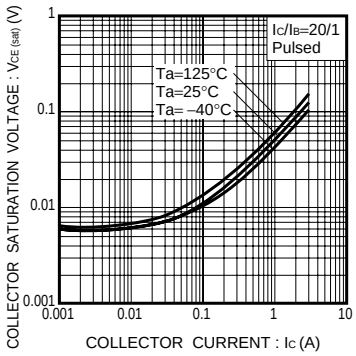


Fig.2 Collector-Emitter Saturation Voltage vs. Collector Current

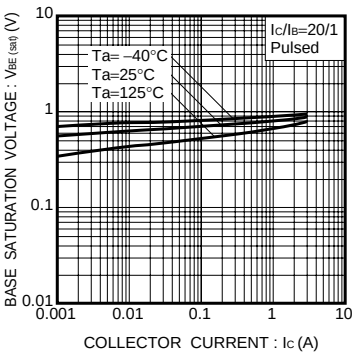


Fig.3 Base-emitter saturation voltage vs. Collector Current

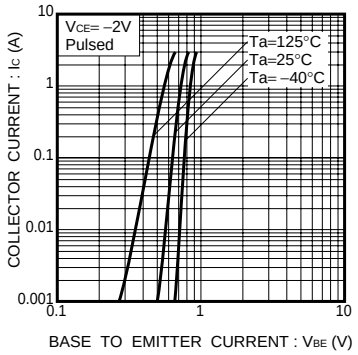


Fig.4 Grounded Emitter Propagation Characteristics

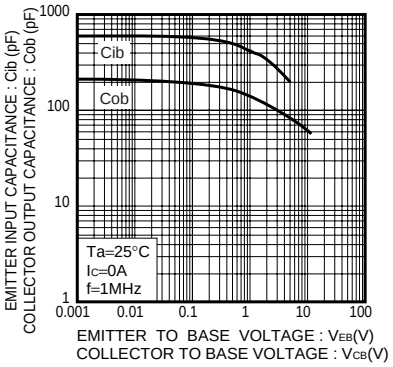


Fig.5 Collector Output Capacitance vs. Collector-Base Voltage
Emitter Input Capacitance vs. Emitter-Base Voltage

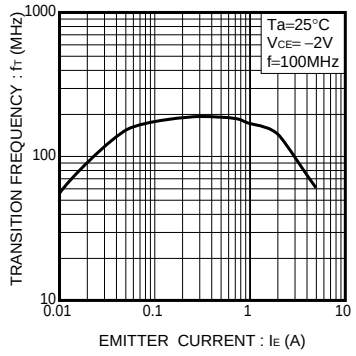


Fig.6 Gain Bandwidth Product vs. Emitter Current

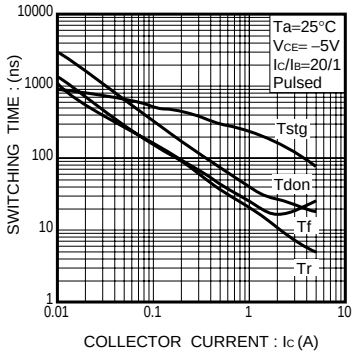


Fig.7 Switching Time

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